

Wednesday, August 31, 2011 3:06:13 PM



**Accept**

**Setup Start**

**Stop**



**Start Date:** 8/31/2011      **Start Qty:** 20.00

**Cust Item ID:**

**Required Date:** 9/21/2011      **Req'd Qty:** 20.00



**Customer:**

**Reference:**

Run Start

**Approvals:**

### Process Plan:

CZ

**Date:** 1/10/2023

### Tooling:

Date:

**Stop**



**OC:**

Date:

SPC (Y/N):

Date:

100	HAAS CNC VERTICAL MACHINING #1	0.00	only B.A. 11/10/28	20	✓
HAAS 1	Memo	0.00			
HAAS CNC vertical machine #1	Program Batch No. <u>313401</u> Double check by: <u>OK</u> <input type="checkbox"/> 1-Machine Step No 1 per Folio FA641 and inspect per attached Dimension Sheets <input type="checkbox"/> 2-Machine Step No 2 per Folio FA641 and inspect per attached Dimension Sheets <input type="checkbox"/> 3-Machine Step No 3 per Folio FA641 and inspect p				
110	QC2- Inspect parts off machine FAI/FAIB	0.00	only B.A. 11/10/28	20	✓
QC	Memo	0.00			
Quality Control					
120	QC8- Inspect parts - second check	0.00	SA 11/10/30	20	✓
QC	Memo	0.00			
Quality Control					

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 73407**

Wednesday, August 31, 2011 3:06:13 PM



Page 2

Item ID: D3500-1

Accept



Setup Start



Revision ID:

Stop



Item Name: Saddle

Start Date: 8/31/2011 Start Qty: 20.00



Cust Item ID:

Required Date: 9/21/2011 Req'd Qty: 20.00



Customer:

Reference:

Approvals:

Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

20 BR 11-10-31

140

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME:

FINISH TIME:

OVEN TEMPERATURE:

11:45

3200 F

1275

20X4 M-F 11/10/31

150

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

20 BR 11-10-31

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 73407**

Wednesday, August 31, 2011 3:06:13 PM

Page 3

Item ID: D3500-1

Accept

Setup Start

Revision ID:

Stop

Item Name: Saddle

Start Date: 8/31/2011 Start Qty: 20.00

Cust Item ID:

Required Date: 9/21/2011 Req'd Qty: 20.00

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

160

Identify as per dwg & Stock Location: 427

0.00



Packaging

Memo

0.00

Packaging

11/10/31 J (20)

170

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/11/01 J

MF 11-11-01

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Wednesday, August 31, 2011 3:06:11 PM

Page 1

Work Order ID: 73407



Parent Item: D3500-1



Parent Item Name: Saddle

Start Date: 8/31/2011

Required Date: 9/21/2011

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP Rev:A New Issue 06-06-15 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D6102-013

Manufactured

No

100

Each

36.0000

1

20



Saddle Billet

Location

Loc Qty

Loc Code

MAT043

36

59467

3

60713

8

61300

1

70674

24

B 73492

20.0

B.A. 11/10/28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	73407
<b>Description: Saddle</b>		<b>Part Number:</b>	D3500-1
<b>Inspection Dwg: D3500</b>		<b>Rev: C</b>	<b>Page 1 of 1</b>

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
A	0.483	0.490		0.486	.487	.487	.487		
B	1.175	1.185		1.180	1.180	1.180	1.180		
C	3.145	3.155		3.150	3.150	3.150	3.150		
D	1.175	1.185		1.180	1.180	1.180	1.180		
E	0.365	0.385		0.383	.382	.382	.382		
F	0.490	0.510		0.497	.500	.497	.497		
H									
(Note: Dimension I is 0.015" over flange)									
I	R1.575	R1.595		1.584	1.590	1.587	1.587		
J	0.240	0.260		0.249	.241	.244	.245		
K	0.490	0.510		0.500	.500	.500	.500		
L	3.590	3.650		3.620	3.620	3.620	3.620		
M	0.315	0.322		0.318	.317	.317	.317		
N	0.256	0.262		0.258	.260	.260	.260		
O	6.500	6.520		6.510	6.510	6.510	6.512		
P	5.990	6.010		5.999	6.000	6.000	6.000		
Q	2.820	2.830		2.825	2.825	2.825	2.825		
R	2.495	2.505		2.500	2.500	2.500	2.500		
S	2.245	2.255		2.250	2.250	2.250	2.250		
T	1.120	1.130		1.125	1.125	1.125	1.125		
U	0.540	0.560		0.549	.549	.549	.548		
V	0.793	0.803		0.798	.798	.798	.798		
W	R.240	R.260		0.250	.250	.250	.250		
X	0.040	0.060		0.047	.048	.048	.045		
Y	0.100	0.120		0.110	.110	.110	.110		
AA	R1.125	R1.145		1.130	1.135	1.132	1.131		
AB	R.490	R.510		0.500	.500	.500	.500		
AC	0.615	0.635		0.625	.635	.635	.635		
AD	0.240	0.260		0.257	.247	.249	.250		
AE	1.810	1.830		1.820	1.818	1.818	1.818		
AF	0.240	0.260		0.248	.247	.247	.245		
AG	0.140	0.160		0.151	.150	.150	.149		
AH	0.140	0.160		0.160	.143	.147	.147		
AI	0.140	0.160		0.160	.154	.156	.155		
Accept/Reject									

Measured by: <u>B.A. / ml</u>	Audited by: <u>[Signature]</u>
Date: <u>11/10/28 / 11/10/29</u>	Date: <u>11/10/30</u>

Rev	Date	Change	Revised by	Approved
A	06.09.26	New Issue	KJ/EC	
B	08.10.07	Dimension H removed	KJ/DD	
C	08.11.28	Dimension 'M' revised	KJ/EC	
D	11.01.17	Note added to Dim I	KJ	<u>[Signature]</u>

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	73407
<b>Description: Saddle</b>		<b>Part Number:</b>	D3500-1
<b>Inspection Dwg: D3500</b>		<b>Rev: C</b>	<b>Page 1 of 1</b>

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	15	16	17	18	By	Date
A	0.483	0.490		.487	.487	.487	.487		
B	1.175	1.185		1.180	1.180	1.180	1.180		
C	3.145	3.155		3.150	3.150	3.150	3.150		
D	1.175	1.185		1.180	1.180	1.180	1.180		
E	0.365	0.385		.382	.382	.382	.382		
F	0.490	0.510		.499	.499	.499	.500		
H									
(Note: Dimension I is 0.015" over flange)									
I	R1.575	R1.595		1.587	1.587	1.586	1.586		
J	0.240	0.260		.243	.245	.244	.244		
K	0.490	0.510		.499	.499	.500	.500		
L	3.590	3.650		3.620	3.620	3.620	3.620		
M	0.315	0.322		.317	.317	.317	.317		
N	0.256	0.262		.260	.260	.260	.260		
O	6.500	6.520		6.512	6.512	6.510	6.510		
P	5.990	6.010		6.000	6.000	6.000	6.000		
Q	2.820	2.830		2.825	2.825	2.825	2.825		
R	2.495	2.505		2.500	2.500	2.500	2.500		
S	2.245	2.255		2.250	2.250	2.250	2.250		
T	1.120	1.130		1.125	1.125	1.125	1.125		
U	0.540	0.560		.548	.549	.549	.549		
V	0.793	0.803		.798	.798	.798	.798		
W	R.240	R.260		.250	.250	.250	.250		
X	0.040	0.060		.050	.046	.045	.048		
Y	0.100	0.120		.112	.110	.112	.111		
AA	R1.125	R1.145		1.133	1.133	1.132	1.132		
AB	R.490	R.510		.500	.500	.500	.500		
AC	0.615	0.635		.635	.635	.635	.635		
AD	0.240	0.260		.250	.251	.250	.250		
AE	1.810	1.830		1.819	1.819	1.818	1.818		
AF	0.240	0.260		.245	.246	.245	.245		
AG	0.140	0.160		.149	.149	.149	.149		
AH	0.140	0.160		.148	.147	.147	.147		
AI	0.140	0.160		.155	.153	.154	.152		
Accept/Reject									

Measured by:	<i>cm</i>
Date:	11/10/29

Audited by:	<i>SA</i>
Date:	11/10/30

Rev	Date	Change	Revised by	Approved
A	06.09.26	New Issue	KJ/EC	
B	08.10.07	Dimension H removed	KJ/DD	
C	08.11.28	Dimension 'M' revised	KJ/EC	
D	11.01.17	Note added to Dim I	KJ	<i>AA</i>

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	73407
<b>Description: Saddle</b>		<b>Part Number:</b>	D3500-1
<b>Inspection Dwg: D3500</b>		<b>Rev: C</b>	<b>Page 1 of 1</b>

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	#9	#10	#11	#12	By	Date
A	0.483	0.490		.487	.487	.487	.487		
B	1.175	1.185		1.180	1.180	1.180	1.180		
C	3.145	3.155		3.150	3.150	3.150	3.150		
D	1.175	1.185		1.180	1.180	1.180	1.180		
E	0.365	0.385		.382	.382	.382	.382		
F	0.490	0.510		.500	.500	.500	.499		
H									
(Note: Dimension I is 0.015" over flange)									
I	R1.575	R1.595		1.587	1.587	1.586	1.588		
J	0.240	0.260		.244	.244	.244	.244		
K	0.490	0.510		.500	.500	.500	.499		
L	3.590	3.650		3.620	3.620	3.620	3.620		
M	0.315	0.322		.317	.317	.317	.317		
N	0.256	0.262		.260	.260	.260	.260		
O	6.500	6.520		6.511	6.510	6.510	6.510		
P	5.990	6.010		6.000	6.000	6.000	6.000		
Q	2.820	2.830		2.825	2.825	2.825	2.825		
R	2.495	2.505		2.500	2.500	2.500	2.500		
S	2.245	2.255		2.250	2.250	2.250	2.250		
T	1.120	1.130		1.125	1.125	1.125	1.125		
U	0.540	0.560		.547	.548	.549	.548		
V	0.793	0.803		.798	.798	.798	.798		
W	R.240	R.260		.250	.250	.250	.250		
X	0.040	0.060		.045	.046	.046	.045		
Y	0.100	0.120		.110	.110	.111	.110		
AA	R1.125	R1.145		1.132	1.133	1.131	1.132		
AB	R.490	R.510		.500	.500	.500	.500		
AC	0.615	0.635		.635	.635	.635	.635		
AD	0.240	0.260		.250	.250	.250	.250		
AE	1.810	1.830		1.818	1.818	1.818	1.818		
AF	0.240	0.260		.245	.246	.244	.245		
AG	0.140	0.160		.149	.149	.149	.149		
AH	0.140	0.160		.147	.147	.147	.147		
AI	0.140	0.160		.154	.155	.154	.154		
Accept/Reject									

Measured by:	<i>am</i>
Date:	11/10/29

Audited by:	<i>[Signature]</i>
Date:	11/10/30

Rev	Date	Change	Revised by	Approved
A	06.09.26	New Issue	KJ/EC	
B	08.10.07	Dimension H removed	KJ/DD	
C	08.11.28	Dimension 'M' revised	KJ/EC	
D	11.01.17	Note added to Dim I	KJ	<i>[Signature]</i>

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	73407
<b>Description: Saddle</b>		<b>Part Number:</b>	D3500-1
<b>Inspection Dwg: D3500</b>		<b>Rev: C</b>	<b>Page 1 of 1</b>

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	#13	#14	#15	#16	By	Date
A	0.483	0.490		.487	.487	.487	.487		
B	1.175	1.185		1.180	1.180	1.180	1.180		
C	3.145	3.155		3.150	3.150	3.150	3.150		
D	1.175	1.185		1.180	1.180	1.180	1.180		
E	0.365	0.385		.382	.382	.382	.382		
F	0.490	0.510		.500	.499	.500	.500		
H									
(Note: Dimension I is 0.015" over flange)									
I	R1.575	R1.595		1.586	1.586	1.587	1.587		
J	0.240	0.260		.245	.244	.244	.244		
K	0.490	0.510		.499	.499	.500	.500		
L	3.590	3.650		3.620	3.620	3.620	3.620		
M	0.315	0.322		.317	.317	.317	.317		
N	0.256	0.262		.260	.260	.260	.260		
O	6.500	6.520		6.510	6.510	6.510	6.510		
P	5.990	6.010		6.000	6.000	6.000	6.000		
Q	2.820	2.830		2.825	2.825	2.825	2.825		
R	2.495	2.505		2.500	2.500	2.500	2.500		
S	2.245	2.255		2.250	2.250	2.250	2.250		
T	1.120	1.130		1.125	1.125	1.125	1.125		
U	0.540	0.560		.548	.548	.548	.549		
V	0.793	0.803		.798	.798	.798	.798		
W	R.240	R.260		.250	.250	.250	.250		
X	0.040	0.060		.045	.045	.048	.045		
Y	0.100	0.120		.108	.110	.110	.110		
AA	R1.125	R1.145		1.131	1.132	1.134	1.133		
AB	R.490	R.510		.500	.500	.500	.500		
AC	0.615	0.635		.635	.635	.635	.635		
AD	0.240	0.260		.252	.250	.250	.250		
AE	1.810	1.830		1.817	1.818	1.819	1.818		
AF	0.240	0.260		.246	.245	.246	.246		
AG	0.140	0.160		.149	.149	.149	.149		
AH	0.140	0.160		.147	.147	.148	.148		
AI	0.140	0.160		.155	.155	.155	.152		
Accept/Reject									

Measured by:	<i>aml</i>
Date:	11/10/30

Audited by:	<i>[Signature]</i>
Date:	11/10/30

Rev	Date	Change	Revised by	Approved
A	06.09.26	New Issue	KJ/EC	
B	08.10.07	Dimension H removed	KJ/DD	
C	08.11.28	Dimension 'M' revised	KJ/EC	
D	11.01.17	Note added to Dim I	KJ	<i>[Signature]</i>

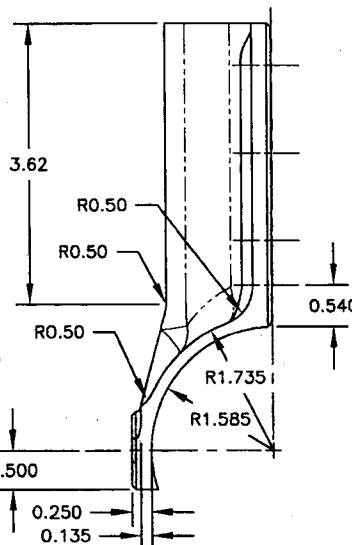
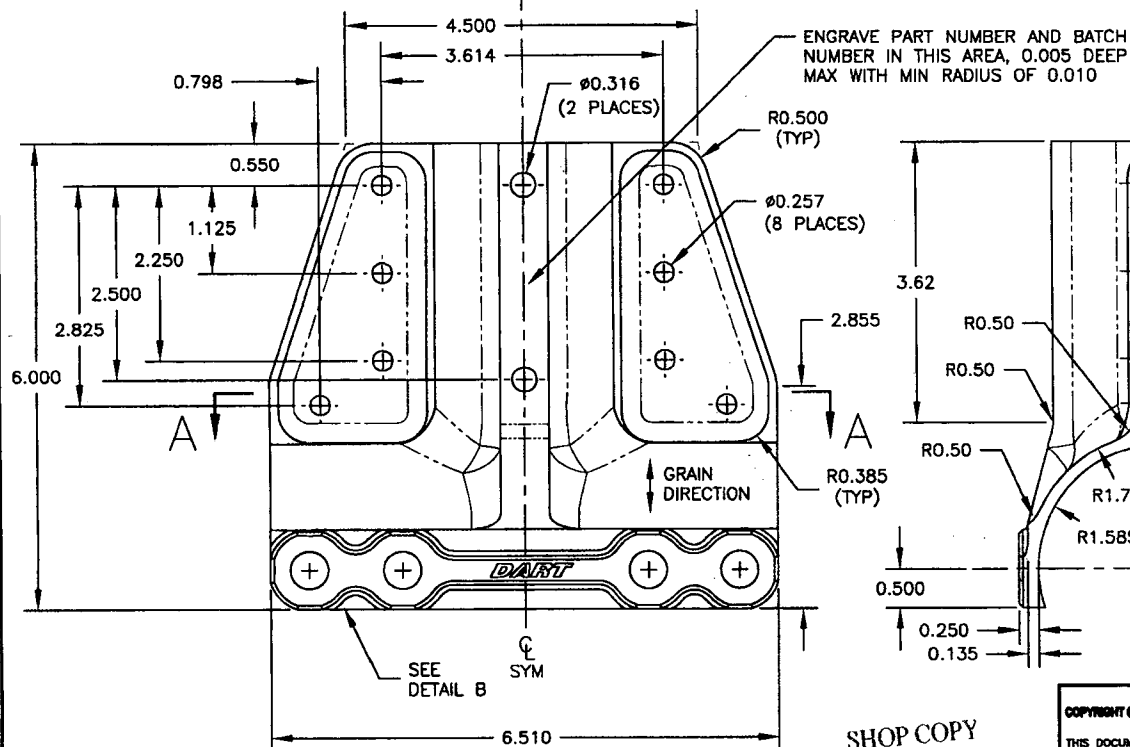
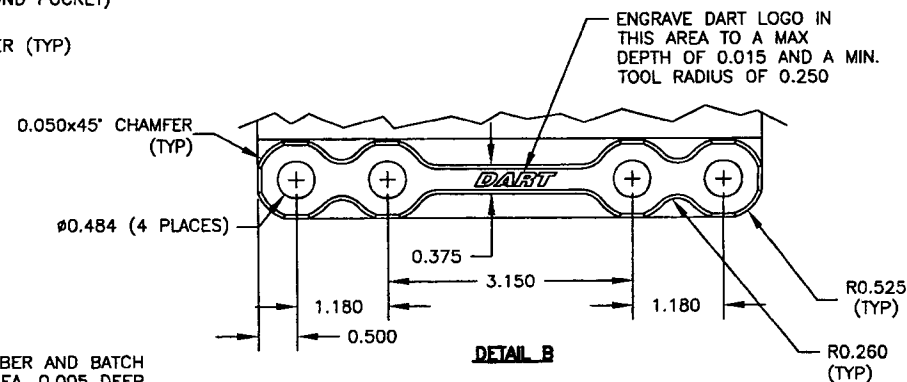
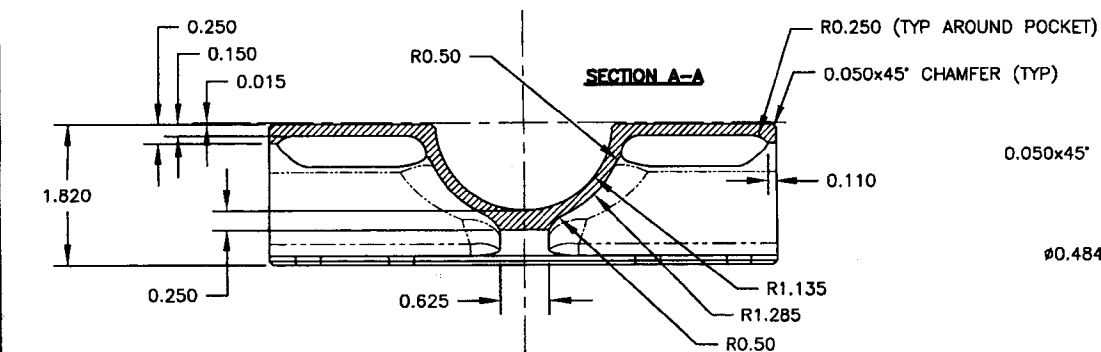
<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	73407
<b>Description: Saddle</b>		<b>Part Number:</b>	D3500-1
<b>Inspection Dwg: D3500</b>		<b>Rev: C</b>	<b>Page 1 of 1</b>

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	#17	#18	#19	#20	By	Date
A	0.483	0.490		.487	.487	.487	.487		
B	1.175	1.185		1.180	1.180	1.180	1.180		
C	3.145	3.155		3.150	3.150	3.150	3.150		
D	1.175	1.185		1.180	1.180	1.180	1.180		
E	0.365	0.385		.382	.382	.382	.382		
F	0.490	0.510		.500	.500	.500	.500		
H									
(Note: Dimension I is 0.015" over flange)									
I	R1.575	R1.595		1.587	1.588	1.586	1.586		
J	0.240	0.260		.244	.244	.244	.244		
K	0.490	0.510		.500	.500	.500	.500		
L	3.590	3.650		3.620	3.620	3.620	3.620		
M	0.315	0.322		.317	.317	.317	.317		
N	0.256	0.262		.260	.260	.260	.260		
O	6.500	6.520		6.570	6.570	6.570	6.570		
P	5.990	6.010		6.000	6.000	6.000	6.000		
Q	2.820	2.830		2.825	2.825	2.825	2.825		
R	2.495	2.505		2.500	2.500	2.500	2.500		
S	2.245	2.255		2.250	2.250	2.250	2.250		
T	1.120	1.130		1.125	1.125	1.125	1.125		
U	0.540	0.560		.560	.549	.549	.549		
V	0.793	0.803		.798	.798	.798	.798		
W	R.240	R.260		.250	.250	.250	.250		
X	0.040	0.060		.045	.045	.045	.045		
Y	0.100	0.120		.110	.110	.110	.110		
AA	R1.125	R1.145		1.132	1.133	1.132	1.132		
AB	R.490	R.510		.500	.500	.500	.500		
AC	0.615	0.635		.635	.635	.635	.635		
AD	0.240	0.260		.250	.249	.250	.250		
AE	1.810	1.830		1.817	1.818	1.818	1.817		
AF	0.240	0.260		.244	.245	.246	.245		
AG	0.140	0.160		.149	.149	.149	.149		
AH	0.140	0.160		.147	.147	.147	.147		
AI	0.140	0.160		.155	.155	.154	.154		
Accept/Reject									

Measured by:	<i>me</i>
Date:	11/10/30

Audited by:	<i>[Signature]</i>
Date:	11/10/30

Rev	Date	Change	Revised by	Approved
A	06.09.26	New Issue	KJ/EC	
B	08.10.07	Dimension H removed	KJ/DD	
C	08.11.28	Dimension 'M' revised	KJ/EC	
D	11.01.17	Note added to Dim I	KJ	<i>[Signature]</i>



### D3500-1 SADDLE

- 1) MATERIAL: 6061-T6/T651 (QQ-A-200/8 OR QQ-A-250/11) (MAKE FROM D6102-013 SADDLE BILLET, 6061)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1, POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- 3) BREAK ALL SHARP EDGES 0.010 TO 0.020
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

**RELEASED**

06-68-15 #

C	06.06.30	MAT'L NOW 6061-T6/T651
B	06.05.29	CHANGE DIMS; MAT'L NOW 7075-T7351
A	06.04.18	NEW ISSUE
DESIGN	GP	DRAWN BY PH
CHECKED	#	APPROVED #
DATE	06.06.30	TITLE SADDLE
DART AEROSPACE LTD.		REV. C
DART AEROSPACE LTD.		SHEET 1 OF 1
DART AEROSPACE LTD.		SCALE 2:3

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